on for energy to be transferred therefrom. In addition, a user has limited control over the energy transfer. For example, the user may not be able to control how much energy is being transferred, the transfer rate, and/or how much energy the host device retains.

[0021] In addition, portable devices are typically configured to receive energy having specific characteristics, such as format (e.g., direct current (DC)) and power rating (e.g., voltage and current), for example. For example, a mobile telephone may be configured to receive DC power at 5 volts and 850 milliamperes, while a laptop computer may be configured to receive DC power at 15 volts and 3 amperes. Transferring energy to a portable device in a different format and/or at levels exceeding its specific power rating may permanently damage the device.

[0022] FIG. **1** illustrates energy transfer device **100** that is capable of intelligent energy transfer between devices (e.g., portable devices), according to one embodiment. Energy transfer device **100** includes cable **102** that extends between first connector **104** operatively coupled to cable **102** at one end to second connector **106** operatively coupled to cable **102** at another end. Cable **102** includes one or more conductors (e.g., copper wires) (not shown) extending between first and second connectors **104**, **106** to transmit energy and/or data. In some embodiments, cable **102** includes one or more optical fibers; these may be used for optical energy transfer, may be used for optical data transfer, or may be used for both (either using the same fiber or separate ones). In some embodiments, cable **102** includes both one or more conductors as well as one or more optical fibers. In various embodiments, first and second connectors **104**, **106** are universal serial bus (USB) connectors, mini-USB connectors, micro-USB connectors, or any of various standard or proprietary connectors. Certain embodiments further include adapters to accommodate various types of connectors. First and second connectors **104**, **106** operatively and detachably couple cable **102** to portable or other devices so that energy and/or information may be transferred therefrom and therebetween.

[0023] In one embodiment, energy transfer device **100** also includes control unit **108** operatively coupled to cable **102**. Control unit **108** includes housing **110** and input/output device **112**. Housing **110** encloses various electronic components (not shown) including processing circuits configured to perform functionality such as, for example, interfacing and communicating with devices, intelligently controlling energy transfer between devices, accepting and processing user inputs, and operating a display, among other things. Input/output device **112** may include a display (e.g., a liquid crystal display (LCD) screen) and/or a user input device (e.g., a touch screen and/or buttons). In some embodiments input/output device **112** may include audio components such as a microphone to accept verbal input and/or a speaker to provide audible output.

[0024] In some embodiments, control unit **108** is integral to cable **102**. For example, control unit **108** may be disposed near a midpoint of cable **102** or formed in a sheath of cable **102**. In other embodiments, control unit **108** is a discrete component that is separate from cable **102**. For example, in some embodiments, control unit **108** is disposed in an adapter operably coupled to cable **102**. In certain embodiments, control unit **108** does not include input/output device **112**. In such embodiments, for example, energy transfer device **100** may automatically transfer energy between devices without receiving user inputs. In such cases, energy transfer device **100** may automatically transfer energy based upon input from one or both of the portable devices attached to it, and/or based upon instructions previously stored within control unit **108**. In other embodiments, input/output device **112** is provided via an application running on at least one of the devices to which energy transfer device **100** is connected.

[0025] In some embodiments, energy transfer device **100** is directionally agnostic, such that either of the devices to which it is connected can be selected as a host device or as a recipient device, regardless of whether they are connected to energy transfer device **100** via first connector **104** or second connector **106**. In other embodiments, energy transfer device **100** is directional, such that a device connected to one of first or second connectors **104**, **106** is always the host device or the recipient device. For example, in some embodiments, the device connected to first connector **104** is always the host device. As used herein, the term "host device" refers to a device from which energy is transferred and the term "recipient device" refers to a device to which energy is transferred.

[0026] In some embodiments, control unit **108** includes an internal battery to power the internal processing and input/output needs of energy transfer device **100**. In some embodiments the internal battery is a primary battery; in others it is a secondary battery designed for recharging from an external power source (e.g., an AC wall plug outlet). In other embodiments, control unit **108** includes a secondary battery configured to obtain (e.g., "pirate") energy from one or more devices to which it is connected. In further embodiments, control unit **108** includes a battery to perform initial wake-up commands, which is recharged by pirating energy from a device once the device is connected thereto. In other embodiments, control unit **108** includes a relatively high-capacity internal secondary battery to receive and/or transmit energy to and from devices or other energy sources.

[0027] FIG. **2** illustrates energy transfer device **100** operatively coupled to first portable device **114** and second portable device **116**. For example, first portable device **114** may be a laptop computer with rechargeable battery **118** that has ample energy, and second portable device **116** may be a mobile telephone with rechargeable battery **120** that is running low on energy. Energy transfer device **100** allows energy to be transferred from first portable device **114** to second portable device **116**.

[0028] Referring to FIG. **3**, a block diagram of processing circuit **300** of energy transfer device **100** is shown according to one embodiment. In an embodiment, processing circuit **300** can be implemented by control unit **108** of energy transfer device **100**. Processing circuit **300** includes controller **302**, which controls the various modules of processing circuit **300**. Controller **302** includes processor **304** and memory **306**. Processor **304** may be implemented as a general-purpose processor, an application specific integrated circuit (ASIC), one or more field programmable gate arrays (FPGAs), a digital-signal-processor (DSP), a group of processing components, or other suitable electronic processing components. Memory **306** is one or more devices (e.g., RAM, ROM, Flash Memory, hard disk storage, etc.) for storing data and/or computer code for facilitating the various processes described herein. Memory **306** may be or include non-transient volatile memory or non-volatile memory. Memory **306** may include database components, object code